

What is claimed is:

1. A cold cathode type flat panel display which is an image display device comprising a vacuum panel container composed of a cathode substrate in which plural cold cathode type electron sources are arranged at regular intervals, an anode substrate in which a phosphor film is deposited in the form of dots or lines so as to be opposed to the electron sources, plural spacers for supporting the cathode substrate and the anode substrate at a given interval, and a glass frame for keeping vacuum,

10 plural electrical lines which extend in a line direction and a row direction which cross each other being formed, across an interlayer insulator, on the cathode substrate, the cold cathode type electron sources being arranged at positions corresponding to intersection coordinates of these electrical lines so as to be connected to the electrical lines in the line direction and the row direction, and the cold cathode 15 type electron sources being line-sequentially scanned, thereby displaying images,

20 wherein some parts of lines positioned in the upper layer out of the plural electrical lines are made into scan lines and lines positioned in the lower layer out of the plural electrical lines are made into data 25 lines, and

some parts of the electrical lines positioned in the upper layer are made into ground lines for

giving ground voltage to the spacers, and further the spacers are in a ground state by the ground lines at the least in the period when the scan lines adjacent thereto are selected.

5 2. A cold cathode type flat panel display which is an image display device comprising a vacuum panel container composed of a cathode substrate in which plural cold cathode type electron sources are arranged at regular intervals, an anode substrate in which a
10 phosphor film is deposited in the form of dots or lines so as to be opposed to the electron sources, plural spacers for supporting the cathode substrate and the anode substrate at a given interval, and a glass frame for keeping vacuum,

15 plural electrical lines which extend in a line direction and a row direction which cross each other being formed, across an interlayer insulator, on the cathode substrate, the cold cathode type electron sources being arranged at positions corresponding to
20 intersection coordinates of these electrical lines so as to be connected to the electrical lines in the line direction and the row direction, and the cold cathode type electron sources being line-sequentially scanned, thereby displaying images,

25 wherein lines positioned in the upper layer out of the plural electrical lines are made into scan lines and lines positioned in the lower layer out of the plural electrical lines are made into data lines, and

some parts of the scan lines positioned in the upper layer function both as power feeding lines for giving electric potential to the spacers and scan lines, and are at scan line voltage at the least in the period

5 when the parts of the scan lines are selected.

3. The cold cathode type flat panel display according to claim 1, in which in an edge portion of the cathode substrate, terminals of the electrical lines positioned in the upper layer are connected to a

10 flexible printed circuit connected to a scan line

driver circuit, and supply electric potential to the spacer lines through the scan line driver circuit.

4. The cold cathode type flat panel display according to claim 1, in which in an edge portion of

15 the cathode substrate, terminals of the electrical

lines positioned in the upper layer are connected to a flexible printed circuit connected to a scan line

driver circuit, and supply ground voltage from the outside through independent power feeding lines in the

20 state that the spacer lines are mutually short-

circuited through internal lines of the flexible printed circuit.

5. The cold cathode type flat panel display according to claim 1, in which the spacer lines in the

25 edge portion of the cathode substrate are extended to

the outside of terminals of the scan lines and are mutually short-circuited, and the spacer lines give

ground voltage from the outside through independent

power feeding lines.

6. The cold cathode type flat panel display according to claim 1, in which the cold cathode type electron sources each have a structure wherein a bottom electrode, an electron accelerator, and a top electrode are laminated in this order, and are each an electron source element which emits electrons from the surface of the top electrode when a positive voltage is applied to the top electrode.

10 7. The cold cathode type flat panel display according to claim 6, in which the bottom electrode of each of the cold cathode type electron sources is made of Al or Al alloy, and the electron accelerator is made of alumina obtained by subjecting the Al or Al alloy to anodic oxidation.

15 8. The cold cathode type flat panel display according to claim 2, in which in an edge portion of the cathode substrate, terminals of the electrical lines positioned in the upper layer are connected to a flexible printed circuit connected to a scan line driver circuit, and supply electric potential to the spacer lines through the scan line driver circuit.

20 9. The cold cathode type flat panel display according to claim 2 or 8, in which the cold cathode type electron sources each have a structure wherein a bottom electrode, an electron accelerator, and a top electrode are laminated in this order, and are each an electron source element which emits electrons from the

surface of the top electrode when a positive voltage is applied to the top electrode.